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Yoon-Seob Eom

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EXAMINER

RAHIM, AZIM

ART UNIT

PAPER NUMBER

3744

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,580	Applicant(s) EOM ET AL.	
	Examiner AZIM RAHIM	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/15/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1-14 are objected to because of the following informalities:

In claim 1, line 2, a “comma” should be inserted between the words “case” and “one”; Also, in line 12, the limitation "first and second outdoor heat exchangers" should be corrected to recite --first and second smaller outdoor heat exchangers-- in order to distinguish from "the at least one outdoor heat exchanger" as recited in line 10. Furthermore, the subsequent recitations of the limitations “first outdoor heat exchanger” and/or “second outdoor heat exchanger” in claim 1, lines 18 and 19, claim 10, lines 3 and 5, and claim 11, lines 2 and 4 should be corrected to recite --first smaller outdoor heat exchanger-- and/or --second smaller outdoor heat exchanger--, respectively. In addition, in lines 14 and 15, the recitation “and that sucks” should be corrected to recite --and sucks--; and in line 17, the limitation “a stabilizer” should be changed to recite --an outdoor cross flow fan stabilizer--. In line 21, the limitation “a driving motor” should be changed to recite --a first driving motor--.

In claim 2, lines 2 and 3, the recitation “a compressor that compresses a refrigerant into a high temperature and a high pressure installed” should be corrected to recite --a compressor that compresses a refrigerant to a high temperature and a high pressure and is installed--.

In claim 3, line 4, a "comma" should be inserted between the words “conditioner” and “formed.”

In claim 6, line 4, the limitation “a driving motor” should be changed to recite --a second driving motor-- to distinguish from the limitation “a driving motor” as recited in claim 1.

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Furthermore, in line 5, the recitation “a plurality of blades formed at provided on” should be corrected to recite --a plurality of blades provided on--.

In claim 7, line 6, the limitation “a stabilizer” should be changed to recite --an indoor cross flow fan stabilizer-- to distinguish from the limitation “a stabilizer” as recited in claim 1.

In claim 10, line 3, the limitation “first outdoor heat exchanger” should be corrected to recite --a first smaller outdoor heat exchanger-- in order to provide proper antecedent basis in the claims.

In claim 14 should be rewritten to recite --The window type air conditioner of claim 1, wherein the plurality of blades of the outdoor cross flow fan is in contact with condensed water stored in a lower portion of the case and is positioned on the outdoor side, thereby s[raying the condensed water when the outdoor cross flow fan is rotated--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Liang (US 3,366,169).

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Regarding claim 1, Liang teaches a window type air conditioner (1), comprising: a case (4), one side of which is positioned on an indoor side (2), and another side of which is positioned on an outdoor side (3); at least one indoor heat exchanger (12) mounted inside the case positioned on the indoor side [illustrated in figure 1] to heat exchange with indoor air [the indoor heat exchanger is capable of performing this intended use function]; an indoor cross flow fan (19) that generates a blowing force [illustrated in figure 1] so that the indoor air passes through the at least one indoor heat exchanger and that sucks and discharges the indoor air in a circumferential direction thereof [the indoor cross flow fan is capable of performing this intended use function]; at least one outdoor heat exchanger [the combination of heat exchangers 13a and 13b] mounted inside the case positioned on the outdoor side [illustrated in figure 1] to heat exchange with the outdoor air [the outdoor heat exchanger is capable of performing this intended use function], the at least one outdoor heat exchanger comprising first (13a) and second (13b) smaller outdoor heat exchangers; an outdoor cross flow fan (20) that generates a blowing force [illustrated in figure 1] so that the outdoor air passes through the first and second smaller outdoor heat exchangers and sucks and discharges the outdoor air in a circumferential direction thereof [the outdoor cross flow fan is capable of performing this intended use function]; and outdoor cross flow fan stabilizer (26) that divides a suction side and a discharge side of the outdoor cross flow fan [illustrated in figure 1] installed between the first smaller outdoor heat exchanger and the second smaller outdoor heat exchanger [illustrated in figure 1], wherein the outdoor cross flow fan comprises: a hub (60) arranged extending in a longitudinal direction of the first and second smaller outdoor heat exchangers and connected to an outdoor driving motor (29), and a plurality of blades (21) provided on an outer circumferential surface of the hub

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[illustrated in figure 1] with a certain interval therebetween and having a certain length [illustrated in figure 1].

Regarding claim 2, Liang teaches that the window type air conditioner further comprises a compressor (45) that compresses a refrigerant into a high temperature and a high pressure [it is factual that a compressor performs this function], wherein the compressor is installed on one side of the at least one outdoor heat exchanger [illustrated in figure 2], wherein the compressor comprises a horizontal type compressor [as illustrated in figure 2, the compressor is horizontally positioned] that includes a driving device and a refrigerant compression device [column 4, line 58, the compressor is motor driven and provides the function of compression] horizontally arranged [illustrated in figure 1].

Regarding claim 3, Liang teaches that the window type air conditioner further comprises an indoor suction port [area of wall 200 in figure 1 or area 225 in figure 10] through which indoor air is sucked into the air conditioner [illustrated in figure 10] formed on a front surface of the case positioned on the indoor side [illustrated in figure 10]; and an indoor discharge port (201) through which the indoor air is discharged from the air conditioner [illustrated in figure 1] formed on an upper surface of the case positioned on the indoor side [illustrated in figure 1].

Regarding claim 4, Liang teaches that the indoor air suction port is substantially the same size of the front surface of the case [illustrated in figure 1].

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Regarding claim 5, Liang teaches that the at least one indoor heat exchanger is vertically arranged [illustrated in figure 1] adjacent to and inside the indoor air suction port [illustrated in figure 1].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang as applied to claim 1 above, and further in view of Yano et al. (US 4,478,053).

Regarding claim 6, Liang teaches all of the limitations of the claimed invention, and further teaches that the indoor cross flow fan comprises: a hub (60) arranged and extending in a longitudinal direction of the at least one indoor heat exchanger [illustrated in figure 2]; and a plurality of blades (21) provided on an outer circumferential surface of the hub [illustrated in

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figure 1] with a certain interval therebetween [illustrated in figure 1] and arranged extending in the longitudinal direction of the at least one indoor heat exchanger [illustrated in figure 1].

Liang fails to explicitly teach that the indoor cross flow fan is connected to an indoor driving motor.

Yano et al. teach the concept of providing a air conditioner [see figures 1 and 2] that comprises an indoor cross flow fan (4) that includes a motor (8) and an outdoor cross flow fan (3) that includes a motor (7) [all disclosed in column 2, lines 56-63].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the air conditioner of Liang to provide separate motors for both blowers as taught by Yano et al. in order to provide a user the ability to individually control both fans, thus increasing cooling efficiency.

Regarding claim 7, Liang teaches that the window type air conditioner further comprises a guide panel (14) that guides indoor air sucked in through an indoor air suction port (200) to an indoor discharge port (201) installed on one side of the indoor cross flow fan [illustrated in figure 1]; and an indoor cross flow fan stabilizer (203) that divides a suction side and a discharge side of the indoor cross flow fan [illustrated in figure 1] is installed at one side of the case [illustrated in figure 1].

7. Claims 8-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang.

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Regarding claim 8, Liang teaches all of the limitations of the claimed invention, and further teaches that the window type air conditioner further comprises an indoor suction port [area of heat exchanger 13a where outdoor air is suctioned into the air conditioner] that sucks the indoor air into the air conditioner formed in a rear surface of the case positioned on the outdoor side [illustrated in figure 1]; and an outdoor discharge port (208) that discharges the outdoor air from the air conditioner formed in a lower surface of the case positioned on the outdoor side [illustrated in figure 1].

Liang fails to teach that the outdoor discharge port is located in an upper surface of the case.

The general concept of providing the outdoor air discharge port in the upper surface of the case falls within the realm of common knowledge as obvious mechanical expedient, and one having ordinary skill in the art would have been motivated to include the use of the outdoor air discharge port being positioned in the upper surface of the case in order to provide particles blown from the air conditioner to be blown laterally, thus preventing injury to persons near the outdoor side of the air conditioner.

Regarding claim 9, Liang teaches all of the limitations of the claimed invention, but fails to teach that the outdoor suction port is substantially the same size as the rear surface of the case.

The general concept of providing the outdoor suction port to be the substantially the same size as the rear surface of the case falls within the realm of common knowledge as obvious mechanical expedient and is illustrated by Liang which teaches that the indoor suction port is substantially the same size as the front surface of the case [illustrated in figure 1], and one having

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ordinary skill in the art would have been motivated to provide the outdoor suction port to be the substantially the same size as the rear surface of the case in order to provide the air conditioner the capability of suctioning more air, thus increasing cooling efficiency.

Regarding claim 10, Liang teaches that the first smaller outdoor heat exchanger is installed adjacent to and inside the outdoor air suction port [illustrated in figure 1] to heat exchange with the outdoor air sucked in through the outdoor air suction port [the first smaller outdoor heat exchanger is capable of performing this intended use function], and the second smaller outdoor heat exchanger is installed adjacent to and inside the outdoor air discharge port [illustrated in figure 1] to heat exchange with the outdoor air discharged through the outdoor air discharge port [the second smaller outdoor heat exchanger is capable of performing this intended use function].

Regarding claim 11, Liang teaches that the first smaller outdoor heat exchanger is arranged to extend vertically inside the outdoor air suction port [illustrated in figure 1], and the second smaller outdoor heat exchanger is arranged to extend horizontally inside the outdoor air discharge port [illustrated in figure 1].

Regarding claim 13, Liang teaches that the window type air conditioner further comprises a guide panel (16) that guides the indoor air sucked in through the outdoor air suction port to the outdoor air discharge port [illustrated in figure 1 via opening 211] is installed on one side of the outdoor cross flow fan [illustrated in figure 1].

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8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liang as applied to claim 1 above, and further in view of Wuesthoff (US 2,941,382).

Regarding claim 14, Liang teaches all the limitations of the claimed invention, but fails to teach that the plurality of blades of the outdoor cross flow fan is in contact with condensed water stored in a lower portion of the case and is positioned on the outdoor side, thereby spraying the condensed water when the outdoor cross flow fan is rotated.

Wuesthoff teaches the limitation of the blade of the outdoor fan being in contact with condensing water (condensate 25) stored at the lower surface of the case [illustrated in figure 1] positioned at the outdoor side [illustrated in figure 1] thereby to spray the condensing water when the outdoor cross flow fan is rotated [the outdoor fan is capable of performing this function].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the air conditioner of Liang to include the condensate removal device as taught by Wuesthoff in order to prevent electrical shock caused by water being exposed to the motor.

Response to Arguments

9. Applicant's arguments filed 8/15/2008 have been fully considered but they are not persuasive. The applicant's suggest that Wuesthoff does not teach or suggest the limitations of claims 1-11 and 13. In addition the applicant does not provide arguments directed to claim 14.

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The Examiner agrees with the applicant that Wuesthoff does not teach the limitations of claims 1-11 and 13, but Liang instead of Wuesthoff was used in the rejections of claims 1-11 and 13, thus showing that the Examiner never used Wuesthoff to reject claims 1-11 and 13. Therefore, for at least these reasons, the Examiner respectfully submit that the rejections of claims 1-11, 13 and 14 are properly upheld.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AZIM RAHIM whose telephone number is (571) 270-1998. The examiner can normally be reached on Monday - Thursday 7am - 3pm EST and Friday 7am - 9:30am EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. R./

Examiner, Art Unit 3744

11/19/2008

/Frantz F. Jules/

Supervisory Patent Examiner, Art Unit 3744